

CLAIMS:

1. A process for manufacturing a silicoaluminophosphate crystalline molecular sieve, the process comprising the steps of: (a) providing sources of aluminium, of phosphorus and of silicon, wherein the source of silicon is in solution with a water-miscible organic base; (b) forming a synthesis mixture from said sources; and (c) treating the synthesis mixture for a period of time and at a temperature sufficient to form the silicoaluminophosphate crystalline molecular sieve.
2. The process of claim 1, wherein the source of silicon is in solution in a water-miscible liquid organic base or an aqueous solution of a solid organic base.
3. The process of claim 2 wherein the water-miscible liquid organic base is in an admixture with water.
4. The process of claim 2 wherein the water-miscible liquid organic base functions as a structure-directing agent.
5. The process of claim 4 wherein the structure-directing agent is tetraethylammonium hydroxide (TEAOH).
6. The process of claim 4 wherein the structure-directing agent is a combination of tetraethylammonium hydroxide and dipropylamine.
7. The process of claim 1, wherein at least part of the process is carried out with agitation of the synthesis mixture.
8. The process of claim 1 wherein the silicoaluminophosphate crystalline molecular sieve is SAPO-34.

9. The process of claim 1 wherein the source of silicon comprises an inorganic silicon compound.
10. The process of claim 9 wherein the inorganic silicon compound is a colloidal silica.
11. The process of claim 1 wherein the silicoaluminophosphate crystalline molecular sieve has a mean particle size of at most 400nm.
12. The process of claim 1 wherein the silicoaluminophosphate crystalline molecular sieve is subjected to the step(s) of one or more of the group consisting of: washing, cation exchange and calcining.
13. A molecular sieve produced by the process of claim 1.
14. A process for the conversion of an oxygenate to olefins in a reactor, the process comprising the steps of: (a) contacting the oxygenate under catalytic conversion conditions with the silicoaluminophosphate crystalline molecular sieve of claim 1; and (b) withdrawing the olefins from the reactor.
15. A process for manufacturing a SAPO-34, the process comprising the steps of: (a) providing a source of aluminium and a source of phosphorus, (b) combining a source of silicon with a water-miscible liquid organic base or an aqueous solution of a solid organic base in an amount sufficient to form a SAPO-34 having a mean particle size of at most 400nm; (c) forming a synthesis mixture from the combination of said sources in steps (a) and (b); and (d) subjecting the synthesis mixture to hydrothermal treatment.
16. A crystalline silicoaluminophosphate molecular sieve having a mean particle size of at most 400 nm.